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ABSTRACT

Problem-solving performance and goal-setting behavior were investigated in 156 undergraduates who, on Mehrabian's Achievement Scales, demonstrated either the motive to approach success or the motive to avoid failure. Different expectations of success or failure were induced by fictitious preperformance information. The degree of success or failure actually experienced on the experimental tasks was manipulated by providing anagrams (word games) which varied in objective difficulty (very easy, average difficulty, insoluble). Results showed that only the degree of experienced success or failure significantly influenced problem-solving performance and subjective correlates of satisfaction and ability ratings. Also, individual differences in achievement motives were found to be consistently associated with predicted patterns of goal-setting behavior and task difficulty preferences. Results were discussed in terms of the transfer effects of prior success or failure experiences. (Author/CP)

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Effects of Motivational and Situational
Variables on Achievement Performance¹

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Abstract

Problem-solving performance and goal-setting behavior were investigated in 156 male and female undergraduate subjects who, on Mehrabian's scale, were characterized by either the motive to approach success or the motive to avoid failure. Different expectations of success or failure were induced by fictitious preperformance information. The degree of success or failure actually experienced on the experimental tasks was manipulated by providing anagrams which varied in level of objective difficulty (very easy, average difficulty, insoluble). Results showed that only the degree of experienced success or failure had a significant influence upon problem-solving performance and subjective correlates of satisfaction and ability ratings. Also, individual differences in achievement motive were found to be consistently associated with predicted patterns of goal-setting behavior and task difficulty preferences. Results were discussed in terms of the transfer effects of prior success or failure experiences.

Effects of Motivational and Situational Variables on Achievement Performance

Several related lines of psychological theory and research have considered the effects of success and failure on achievement-directed behavior. Among these are level of aspiration, expectation induction, and achievement motivation. Much of the research has shown a significant main effect for success or, conversely, failure on task performance and goal-setting behavior. Early investigators working within the level of aspiration (LOA) paradigm consistently found that subjects typically raised their goals following success experiences and lowered them following failure (Lewin, Dembo, Festinger, and Sears, 1944). However, atypical LOA changes are not uncommon. Jucknat, in a 1937 study, first observed that, on the average, approximately 20% of LOA shifts are contrary to predictions (Lewin, et al., 1944). That is, LOA increases after failure but decreases after success.

Subsequently, Sears (1940) found that one antecedent of typical or atypical LOA shifts was the individual's history of success or failure at similar tasks. Subjects with histories of failure made more of the atypical LOA shifts and had more variability in LOA; that is, they set goals that were either unrealistically high or low in comparison to their true ability level. Sears' results have been replicated and extended many times in investigations of the influence of achievement motivation on LOA (e.g., Clark, Teevan, and Ricciuti, 1956; Robinson, 1962; and Issacson, 1964). In general, these studies have demonstrated that individuals with low achievement motivation tend to either underestimate or overestimate their chances of success and, if given the choice, prefer to work at tasks that are either very easy or very difficult. Conversely, those high in achievement motivation tend to make realistic estimates of success and prefer tasks of moderate difficulty.

More recently, investigations have emphasized the effects of different patterns of success and failure on expectations of success and task performance. In one study, Feather (1966) experimentally induced an initial success or failure experience by providing the subjects with either a very easy or an insoluble set of anagrams. All subjects then attempted an identical second set of anagrams that were all of 50% difficulty. Mean performance scores on the second task were higher for those who experienced initial uniform success. Feather also found a significant main effect of initial experiences on subjective expectations of success. Expectations increased after success and decreased after failure, and the absolute magnitude of subjective expectations was greater after failure than after success. These findings were replicated by Ryckman, Gold, and Rodda (1971) and others.

However, other investigations of the influence of success or failure experiences on achievement-directed behavior have often produced conflicting results. Lucas (1952), Sarason (1956), and Moore, Gagné, and Hauck (1973) reported for example, that failure may actually facilitate performance in some experimental conditions. Feather and Saville (1967), in a follow-up study, varied the pattern but reduced the initial amount of success or failure and did not find a significant main effect for differential success experience on subsequent performance. Marlow (1971) presented his subjects with one of three anagram tasks. Each task contained three identical items of 50% difficulty that were interspersed within seven anagrams that were either very easy, of 50% difficulty, or insoluble. Mean performance on the common (50% difficulty) anagrams was lowest in the failure-induced situation. However, Marlow did not control the amount of time subjects worked on each separate anagram, and it may be that subjects spent more time on the insoluble anagrams and less time on the three common ones.

In summary, the studies reviewed above generally suggest that differential

success or failure experiences can influence subsequent achievement-directed behavior. Success at a prior task appears to facilitate and failure appears to depress subsequent task performance and goal-setting behavior; furthermore, failure often produces a more potent effect than success. However, the studies also present some contradictory findings, suggesting that the influence of prior differential success experiences on subsequent performance is complex and depends upon both individual differences of the subjects and the experimental task situations (Feather, 1966).

Achievement motivation theory (Atkinson, 1958, 1964) suggests that task performance is primarily due to the interaction effects of both individual difference and experimental task variables. According to achievement theory, individuals can be characterized by either the motive to approach success (M_s) or the motive to avoid failure (M_{af}). Both M_s and M_{af} are assumed to be general and persistent personality differences. Achievement-directed tasks have the potential for arousing either motive, since whenever there is a chance of successfully performing a task there is also present a chance of failure which confronts the individual. M_s is aroused by the expected consequences of success--satisfaction and pride. Concomitantly, shame and embarrassment, the expected unattractive consequences of failure, serve to arouse M_{af} . When individual differences in achievement motive interact with situationally-defined variables (subjective probabilities of success and incentives for successful performance), specific predictions about achievement-directed behavior can be made (see Atkinson, 1958, 1964).

In light of the somewhat equivocal results reviewed above, this study used the conceptual framework of achievement theory to investigate the extent to which achievement-directed behavior was influenced by task expectations, differential task experiences, and individual differences in achievement motive.

Subjects who differed in achievement motive received preperformance information that was intended to induce either high or low success expectancies. All subjects then experienced a treatment task that varied in level of objective difficulty and was designed to induce differential success experiences.

It was hypothesized that on a subsequent transfer task, a significant main effect would result for success experience on both problem-solving performance and goal-setting behavior. That is, prior success experience would transfer and facilitate subsequent problem-solving performance and also would be followed by upward shifts in LOA. Prior failure, on the other hand, would be expected to produce decrements in problem-solving and LOA, perhaps even to a greater magnitude than success. However, it was also predicted that significant interaction effects would be observed among success experience, expectancy, and individual difference variables. These hypotheses are consistent with numerous related lines of psychological research; e.g., level of aspiration (Lewin, et al., 1944), expectation induction (Tyler, 1958; Moore, et al., 1973), and achievement theory (Atkinson, 1958, 1964; Feather, 1966).

Also of interest in this study are the interactive effects of the three independent variables on other correlates of achievement performance. Thus, measures of task difficulty preference, self-rated ability, and satisfaction with performance were incorporated. Previous related research suggests that achievement motive produces a significant main effect on the first two outcomes. Persons characterized by M_s generally prefer tasks of intermediate difficulty and have a high degree of concordance between self-rated and true ability levels. Achievement motive also has been noted to interact with both preperformance expectancy and success experience; M_s persons should report more satisfaction when success follows expectations of failure than when it follows expectations of success. It is not apparent, however, how changes in these measures correspond

to those in problem-solving or goal-setting.

The present study attempted to replicate and extend earlier ones by Feather (1966) and Feather and Saville (1967). The experimental design was similar in that the amount of time subjects worked on each separate anagram was controlled, and differential success experiences were actually induced by the task itself and not only by feedback from the experimenter. The studies were dissimilar in: (a) the patterns and amount of success or failure induced; (b) the inclusion of an intermediate success experience condition; (c) the use of more extreme success expectancy information; and (d) achievement motive was determined by a completely objective measure rather than the traditional n Achievement-Test Anxiety Questionnaire index.

Method

Subjects

Subjects were 156 volunteer undergraduate students who received credit toward their final course grade for participation. All subjects were pretested to determine achievement motive (M_s or M_{af}) with Mehrabian's (1968) objective scale. Forms appropriate for either males or females were used. A three-way ANOVA (expectation x task experience x achievement orientation) on the scores from the Mehrabian scales yielded a significant achievement motive main effect, $F(1,144)=463.18$, $p < .001$. All other F ratios were less than one. Means (and standard deviations) of M_s and M_{af} groups were 17.37 (7.88) and -11.31 (7.94), respectively.

Sex differences in achievement motivation research pose perplexing and unsolved problems. Results for females are inconsistent with those for males, the postulated models, and internally with each other (see Horner, 1971). However, females were not excluded, since to do so would place a major constraint upon the generalizability of the results. Male and female treatment groups

were run separately, though, to avoid potential confounding of the results by sex differences. In addition, the same ratio of male to female subjects (8:5) was assigned to each treatment condition. Preliminary analysis indicated no significant differences for the sex factor on any dependent measure of interest. Therefore the results were pooled for male and female subjects on subsequent analyses.

Design

The design of the study was a $2 \times 3 \times 2 \times 3$ mixed ANOVA. Between-subjects factors were induced expectation (success or failure), induced objective task experience (success, average performance, or failure), and the organismic variable of achievement motive (M_s or M_{af}). The repeated measure of trials (T1, T2, T3) was the within-subjects factor. Subjects whose achievement motive had been determined by pretesting were randomly assigned to the six possible expectation x task experience treatment combinations. All statistical analyses were done using the .01 level of significance.

Tasks

During the experiment, three separate problem-solving trails were experienced. T1 was merely a baseline and practice task in solving anagrams. Immediately prior to T2 subjects were provided with fictitious norms and data about the anagrams they would next attempt to solve. That is, 50% received preperformance information indicating that the anagrams to follow were very easy to solve; 50% were informed that the anagrams were very difficult. The fictitious norms and data were intended to induce either a high subjective probability of success ($P_s \sim .90$) and a concomitant expectation of success, or a low subjective probability of success ($P_s \sim .10$) and a corresponding expectation of failure.

T2 was a treatment task that manipulated the degree of success or failure

actually experienced. Three different sets of anagrams that varied in relative level of objective difficulty were employed. Each set was comprised of eight pretested anagrams that were either: (a) very easy (only one letter was misplaced), (b) insoluble (no arrangement of letters could produce a meaningful English word), or (c) of an average of 50% (range of 40-60%) difficulty. Correspondingly, rather uniform objective experiences of success, failure, and average performance were provided. In addition, four identical items of 50% difficulty were inserted in the same ordinal positions within the three sets of 12 anagrams. This was done to investigate the effects of success or failure within a series on interspersed anagrams of moderate difficulty level. In the success experience condition the series was as follows: S1, S2, S3, I1, S4, S5, I2, S6, S7, I3, S8, I4 (where S1-S8 represent individual very easy anagrams and I1-I4 represent items common to each set). In the failure experience condition the same order of items was presented, but individual insoluble anagrams replaced the very easy ones.

T3 presented subjects with a single set of 12 new items that were all of 50% mean difficulty. The purpose of these anagrams was to investigate the effects of experimentally induced experiences of success, failure, or average performance on a subsequent task that was of moderate difficulty. Performance on T3 was assumed to be a measure of the transfer effects of prior differential success experiences with anagrams.

All anagrams consisted of six scrambled letters and were presented to the subjects in a booklet where each page contained a single item. Subjects were allowed to work on each separate item for 30 seconds. A prerecorded message signaled the beginning and end of each 30 second time interval, and at no time were subjects permitted to either work ahead or to go back to any item that was previously attempted. In addition to the stimulus materials described above,

several structured questionnaires were used throughout the study to measure subjects' perceptions of the task and the effects of the experimental manipulations on goal-setting behavior, task preferences, self-rated ability, and satisfaction. At the conclusion of T3 an additional questionnaire was administered to check for suspicions on the part of the subjects concerning the true intent of the experimental manipulations. No unusual insights about the study were indicated. Subjects were carefully desensitized before leaving the experimental setting.

Results

Expectancy Induction

Subjective estimates of success were obtained prior to T2 and both before and after T3 to determine whether the fictitious preperformance information successfully induced different expectations. The ANOVA indicated a significant effect for expectation ($F(1,144)=45.43$, $p < .001$) and a two-way interaction of expectation and trials ($F(2,288)=93.45$, $p < .001$). Immediately prior to T2, subjects with success expectancy information rated their chances of success significantly higher ($P_s = .75$) than those with failure expectancy information ($P_s = .36$). It was concluded that different success or failure expectations had in fact been produced. However, mean P_s estimates were higher than the failure expectancy (0.36 vs. 0.10) and lower than the success expectancy (0.75 vs. 0.90) norms that were provided. Similar tendencies have been observed in previous studies (see Feather, 1963). No significant expectation effect emerged immediately before and after T3. While the fictitious norms effectively induced the predicted expectations prior to T2, they had no significant influence upon subjective estimates of success thereafter.

Although changes in P_s were not a major concern in this study, significant effects were noted for success experience ($F(2,144)=17.23, p < .001$) and success experience $\times$ trials ($F(4,288)=27.90, p < .001$). Consequently, changes in P_s also provide an indirect measure of whether the experimental manipulations were induced from the subjects' points of view. Changes in P_s across trials corresponded to the level of objective success or failure that was experienced on T2 and T3. Failure produced the only significant pre- to post-treatment task change in expectations. Depressed expectancies following failure persisted even after a transfer task that was objectively easier.

Perceptions of Differential Success Experience

Responses to two questionnaire items determined whether subjects' perceptions of the tasks matched the actual experimental manipulations of objective difficulty level. Subjects were asked to indicate: (a) how many correct solutions they thought they attained on the last task, and (b) how difficult they perceived the task to be. On the first measure, all success experience groups were equal after T1 and differed after T2, as expected, according to the degree of success experienced. The rank order of the group on T3 was in concordance with their actual level of performance. With respect to perceived task difficulty, all success experience groups were equal on T1 and T3. This was expected since all subjects experienced identical tasks on those two trials. On T2, however, perceived difficulty ratings did correspond to success, failure, or average performance conditions.

Task Difficulty Preference

Preference for task difficulty was found to be a stable individual difference variable that did not vary across trials despite the experimental manipulations. Pooled within-group correlations across trials were as follows: $r_{12}=.445$, $r_{13}=.444$, and $r_{23}=.706$. Ratings were made on a nine-point Likert-type scale

and higher ratings indicated preferences for easier tasks. There was a significant effect for only achievement motive ($F(1,44)=30.01, p<.001$). M_s subjects had a mean of 4.40 and a variance of .78, indicating preferences for slightly more difficult than average tasks. M_{af} individuals had a mean of 5.40 and variance of 2.04, indicating preferences for somewhat easier than average tasks, but also considerably greater variability. Analysis by a modified Bartlett and Kendall test showed this tendency in variances held across all three trials ($F(1,36)=11.83, p<.001$).

Problem-Solving Performance

The ANOVA on the number of correct solutions on T1 showed no significant F ratios (grand mean = 3.28, pooled variance = 1.61). Thus, subjects in each of the 12 cells experienced the same degree of success on the 8 item practice task. This outcome was desirable so that the effects of subsequently induced experiences could be clearly assessed. A similar analysis of the number of correct solutions on T2, however, produced an effect for only prior experience ($F(2,144)=357.10, p<.001$). Post hoc analysis by the Newman-Keuls method indicated that group means were significantly different. They were 9.15 (maximum = 12), 3.94 (maximum = 12), and 1.06 (maximum = 4) for success, average performance, and failure groups, respectively.

ANOVA of the number of T3 anagrams solved correctly yielded only a prior experience main effect ($F(2,144)=19.29, p<.001$). All other F ratios were less than one. Obtained means were in the predicted direction and significantly different (Newman-Keuls method); means were 5.69, 4.71, and 3.58 for success, average performance, and failure groups, respectively. Subjects who initially experienced failure on T2 solved fewer of the subsequent T3 items on 50% difficulty than those who initially experienced success or average performance. Similarly, a prior experience main effect also resulted from the ANOVA of the

number of correct solutions on the four items that were common to each of the T2 anagram sets ($F(2,144)=44.66, p < .001$). Newman-Keuls multiple comparison of means (expressed in Duncan's underlining notation) indicated $\bar{Y}_F=1.06 < \bar{Y}_A=1.27 < \bar{Y}_S=2.52$. As predicted, subjects who experienced failure solved fewer of the four common items than those who experienced success during T2. The mean score of the average performance group was significantly lower than that of the success experience group but not significantly different from that of the group that experienced failure.

When examined as treatment differences using $(\bar{Y}_k - \bar{Y}_{..})/s_y^2$, where s_y^2 = the within-group subject variance, the corresponding scaled treatment effects on the T3 anagrams were $+.59 > +.03 > -.62$ for success, average performance, and failure groups. The success experience subjects' performance levels were more than one standard deviation above those in the failure experience. The scaled treatment effects for the common items on T2 were $+1.06 > \underline{-.40} > .66$; again, there was more than one standard deviation difference between the success and failure experience groups.

Level of Aspiration, Satisfaction, and Self-rated Ability

The ANOVA indicated an achievement motive effect ($F(1,144)=43.63, p < .001$) and a trials effect ($F(1,144)=12.82, p < .001$) on the number of typical LOA shifts. Typical changes were assumed when LOA increased following attainment or decreased following nonattainment of one's previously-stated goals. Conversely, atypical changes were assumed when LOA decreased following attainment, increased following nonattainment, or remained constant irrespective of whether or not one's previously-stated goals were attained. The M_s and M_{af} groups exhibited typical LOA shifts 87% and 57% of the time, respectively. Typical LOA shifts occurred in 81% of the cases on the pre- to post-treatment task and in 63% of the cases the pre- to post-transfer task.

When participants' LOA--expressed as the number of items they predicted they would solve correctly--were analyzed by ANOVA, significant effects were found for prior experience ($F(2,144)=154.04$, $p < .001$), trials ($F(2,288)=19.24$, $p < .001$), and a two-way prior experience x trials interaction ($F(4,288)=55.33$, $p < .001$). Prior to T2 there were no significant differences (Newman-Keuls method) in LOA (grand mean = 5.28, pooled variance = 3.83). After T2, however, the prior success experience group increased LOA ($M = 7.21$, $SD = 1.97$), the failure experience group decreased LOA ($M = 2.48$, $SD = 1.38$), and the average performance group remained unchanged ($M = 4.79$, $SD = 2.23$). All T2 means were significantly different and remained so after the T3 transfer task. On the latter task the means (and standard deviations) were 6.50 (1.87) for prior success, 4.54 (1.89) for prior failure, and 5.52 (2.04) for prior average performance groups.

The ANOVA did not support the hypothesis that the interaction of achievement motive and expectation would be a major determinant of satisfaction with task performance. Rather, the significant effects of prior experience ($F(2,114)=15.49$, $p < .001$), trials ($F(2,288)=16.89$, $p < .001$), and prior experience x trials ($F(4,288)=54.96$, $p < .001$) suggest that ratings of satisfaction were directly influenced only by the objective difficulty of the various tasks that were experienced. While there were no differences following T1 (grand mean = 3.11, pooled variance = 2.62 on a nine-point Likert-type scale), mean satisfaction ratings after T2 were significantly different for the three prior experience groups. The prior success group was most satisfied ($M = 6.23$, $SD = 1.87$) and the prior failure group most dissatisfied ($M = 1.96$, $SD = 1.48$) with performance on the T2 task. Ratings of satisfaction in the group who experienced average performance were between those of success and failure groups ($M = 2.87$, $SD = 1.61$). No group differences were found, however, in mean satisfaction ratings

following T3 (grand mean = 3.97, pooled variance = 2.60).

Inspection of Figure 1 shows that patterns of LOA and satisfaction with performance were generally similar in response to differential success experiences. That is, LOA and satisfaction with performance increased in response to induced success and decreased in response to induced failure on T2. The transfer task was objectively both more difficult for the prior success group and easier for the prior failure one. Observed changes in LOA and satisfaction with performance on T3 are consistent with the predicted responses; i.e., those who experienced success on T2 should lower their LOA and satisfaction after T3, and for those who experienced failure the opposite changes should occur.

Insert Figure 1 About here

The findings with respect to subjects' ratings of their ability to do anagrams closely paralleled those of LOA and satisfaction reported above. There was an effect for prior experience ($F(2,144)=22.12, p<.001$), trials ($F(2,288)=24.40, p<.001$), and the interaction of the two factors ($F(4,288)=58.88, p<.001$). Follow-up analyses by the Newman-Keuls method produced no differences among prior experience groups prior to T2, significant differences among all three groups in the expected direction after T2, and a significant difference between prior success and both prior failure and average performance groups after T3. The latter two groups were not different, however. The pooled ability ratings prior to T2 had a mean of 4.17 and a variance of 1.01. Group means (and standard deviations) after T2 were 5.23 (.88) after success, 2.60 (1.21) after failure, and 3.44 (1.25) after average performance experiences. Corresponding group values after T3 were 4.33 (.90), 3.19 (1.44), and 3.56 (1.29). Thus, the pattern of the ability ratings was very similar to the LOA trends shown in Figure 1.

Discussion

With respect to problem-solving, the present findings replicate earlier studies (cf. Feather, 1966; Feather & Saville, 1967) and suggest that differential prior success experience is a major determinant of subsequent objective task performance. The present study extends earlier ones by clearly demonstrating that this effect holds even when both the number and pattern of prior successes or failure is varied. Whether measured within a series of successes or failures or following a relatively uniform experience of success or failure, success facilitates and failure depresses problem-solving performance.

Prior success experience was also shown to moderate LOA and several other subjective correlates of problem-solving task performance across trials. Inspection of Figure 1 indicates that differential success experience produced predictable and persistent changes in LOA. Subjects who experienced failure on T2 did not expect to do as well in the future, and they did not despite apparently equal ability as shown by equality of all groups on T1 anagrams. Their P_s estimates also concur with LOA and lend support to this conclusion. Yet, on T3 they are satisfied with their inferior performance, relative to the other groups, as shown by equality of all groups on the satisfaction scale. Failure experience subjects apparently have concluded they have inferior ability and are satisfied to perform at lower levels than other subjects.

Prior success experience failed to directly influence only two measures, namely task difficulty preference and proportion of typical LOA shifts. Consistent with earlier studies, however, relatively stable individual difference effects for achievement motive emerged on both measures. The present study extends them by demonstrating that the effects hold over trials despite manipulations of task difficulty experiences.

There are several possible explanations of why the effect of prior experience influenced problem-solving performance. According to achievement theory, performance differences following success or failure are accounted for by group differences in achievement motivation. However, failure to obtain interaction effects for expectancy, success experience, and achievement motive rules out a clear interpretation according to achievement theory.

A more plausible interpretation is one that emphasizes the effects of prior experience on the development of appropriate problem-solving behaviors. Solving anagrams requires a relatively flexible problem-solving set; and although there are no set rules for solving anagrams, subjects who initially experience success may have the opportunity to develop general and flexible response strategies that facilitate task performance. Subjects who initially experience failure, however, would not have a similar opportunity because eight of the anagrams were insoluble. Studies similar to those of Mandler and Sarason (1952) and Sarason (1961) have found that increased levels of anxiety generally have a debilitating effect upon response flexibility on problem solving tasks. Marlow (1971) specifically found that subjects who worked at very difficult anagrams had significantly higher State Anxiety scores when compared to those who attempted relatively easier ones. Thus, it may be that differences in problem-solving performance in the present study could be accounted for by the inability of failure experience subjects to develop appropriate problem-solving skills. Subjective correlates of problem-solving skill, e.g., self-rated ability and satisfaction, are reasonably expected to follow as concomitants of the objective task experiences.

Similarly, differences between achievement motive groups on LOA and difficulty preference measures may have been a function of experience in previous achievement settings. A consistent finding in earlier research is that LOA

is clearly determined by one's experience with the same or similar tasks (see Lewin, et al., 1944). It is possible that M_g subjects have learned certain responses to profit from their failures as well as their successes. Such individuals may be capable of trying new problem-solving strategies that ultimately help ensure success. In contrast M_{af} subjects may not develop the same degree of flexibility because they are convinced that they lack the requisite skills to be successful, no matter what adjustments in problem solving strategies they make. Thus, individuals with a history of failure may have learned a "defensive strategy" against failure in achievement settings by stating LOA's or preferring tasks that do not accurately reflect their own true abilities (cf. Atkinson and Feather, 1966, p.369).

The results suggest some specific and general implications for instructional and testing strategies. In test construction, for example, there are perhaps two strategies available for maximizing performance outcomes when the individual test items vary over a wide range of difficulty levels. Placing the easier items first (as is often suggested in textbooks on classroom testing) may facilitate initial success and prevent initial failure. Alternately, interspersing the more difficult items within a sequence of relatively easier ones may also be facilitative. At the general instructional level, students who have prior histories of failure in school tasks may perhaps enter the classroom with a presenting symptomatology of lower confidence, inappropriate problem-solving skills, inability to adjust to task demands, and unrealistic goal-setting behavior. Obviously, external validity limitations of the present study do not permit unequivocal generalizations to the classroom setting along the above lines. Future research should be directed to naturalistic classroom studies of similar independent and dependent variables.

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Figure Caption

Figure 1. Mean level of aspiration and satisfaction ratings across trials for success, average performance, and failure prior experience groups. (Note. Plotted satisfaction ratings were obtained by multiplying original values by 12/9 to equalize both scales.)

